

## Title (en)

PRODUCTION METHOD FOR TUBULAR CARBON MOLECULE AND TUBULAR CARBON MOLECULE, PRODUCTION METHOD FOR RECORDING DEVICE AND RECORDING DEVICE, PRODUCTION METHOD FOR FIELD ELECTRON EMISSION ELEMENT AND FIELD ELECTRON EMISSION ELEMENT, AND PRODUCTION METHOD FOR DISPLAY UNIT AND DISPLAY UNIT

## Title (de)

HERSTELLUNGSVERFAHREN FÜR RÖHRENFÖRMIGES KOHLENSTOFFMOLEKÜL UND RÖHRENFÖRMIGES KOHLENSTOFFMOLEKÜL, HERSTELLUNGSVERFAHREN FÜR AUFZEICHNUNGSVORRICHTUNG UND AUFZEICHNUNGSVORRICHTUNG, HERSTELLUNGSVERFAHREN FÜR FELDELEKTRONENEMISSIONSELEMENT UND FELDELEKTRONENEMISSIONSELEMENT UND HERSTELLUNGSVERFAHREN FÜR ANZEIGEEINHEIT UND ANZEIGEEINHEIT

## Title (fr)

PROCEDE DE PRODUCTION DE MOLECULE DE CARBONE TUBULAIRE ET MOLECULE DE CARBONE TUBULAIRE, PROCEDE DE PRODUCTION DE DISPOSITIF D'ENREGISTREMENT ET DISPOSITIF D'ENREGISTREMENT, PROCEDE DE PRODUCTION D'ELEMENT A EMISSION D'ELECTRONS DE CHAMP ET ELEMENT A EMISSION D'ELECTRONS DE CHAMP, ET PROCEDE DE PRODUCTION D'UNITE D'AFFICHAGE

## Publication

**EP 1582501 A1 20051005 (EN)**

## Application

**EP 04700779 A 20040108**

## Priority

- JP 2004000080 W 20040108
- JP 2003003773 A 20030109
- JP 2003003774 A 20030109
- JP 2003003775 A 20030109
- JP 2003003776 A 20030109
- JP 2003003779 A 20030109

## Abstract (en)

[origin: WO2004063091A1] A production method for a tubular carbon molecule capable of arraying carbon nanotubes at finer intervals and regularly. A catalyst is disposed on a material substrate (10) consisting of a semiconductor such as silicon (Si) and containing iron (Fe) as a catalyst by utilizing melting according to modulated heat distribution (11). The heat distribution (11) is formed by diffracting energy beams (12), for example, by a diffraction lattice (13). A method of disposing a catalyst may include, for example, depositing iron in a planar or protruding form in a position matching the heat distribution (11), or further transferring it, by using it as an original, onto another substrate. Carbon nanotubes are grown using the disposed catalyst. The grown nanotubes can be used for a recording device, a field electron emission element or an FED.

## IPC 1-7

**B82B 3/00**; **H01J 9/02**; **H01J 1/304**; **H01J 29/04**; **H01J 31/12**; **C01B 31/02**

## IPC 8 full level

**C01B 31/02** (2006.01); **H01J 1/304** (2006.01); **H01J 9/02** (2006.01)

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## DOCDB simple family (application)

**EP 04700779 A 20040108**; JP 2004000080 W 20040108; KR 20057011770 A 20050622; US 35361009 A 20090114; US 54193605 A 20050708